

# MicroPro®/Smart Sense® Construction Product Specification Guide



## PRESERVATIVE TREATMENT

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This document describes the micronized copper quaternary based preservative system manufactured by Osmose®, Inc. for wood products protected from termites and fungal decay. These products are marketed under the MicroPro®/Smart Sense® brand name or other brand names. Recommended applications include: above ground decking, rails, spindles, trim and fascia, framing, flooring, sill plates, trellises, gazebos, fencing; ground contact deck support posts and fence posts; and critical structural members, including permanent wood foundations and building poles. Typical uses may include structural lumber, sill plates, outdoor furniture, patios, decks, garden edging, landscaping structures and fresh water boat docks.

## PRESERVATIVE TREATMENT (PRESERVATIVE-TREATED WOOD)

### PART 1 GENERAL

Specifier Note: MicroPro/Smart Sense micronized copper quaternary preservatives are used to pressure treat the following materials: Dimensional lumber and timbers of the following species: Southern Pine, Ponderosa Pine, Red Pine, Incised Hem-Fir, Radiata Pine, Caribbean Pine and German Scots Pine Decking. Maximum nominal size of 5/4 inches × 8 inches in all listed species for decking use only. Southern Pine and Douglas Fir plywood. Round and Sawn posts and building poles of Southern Pine and Red Pine. Minimum preservative retention levels are provided in the ICC Evaluation Services, Inc. ESR - 1980. MicroPro/Smart Sense preserved wood products are designed for long-term performance in outdoor applications and, therefore, require high quality corrosion resistant nails, screws, and other fasteners. Use hot dip galvanized, stainless steel, or other fasteners and hardware as recommended by the hardware manufacturer and meet building code requirements. Aluminum building products may be placed in direct contact with MicroPro treated wood products used for interior uses and above ground exterior applications such as decks, fencing, and landscaping projects. Examples of aluminum products include siding, roofing, gutters, door and window trim, flashing, nails, fasteners and other hardware connectors. However, MicroPro treated wood in direct contact with aluminum products should only be used in code compliant construction applications that provide proper water drainage and do not allow the wood to be exposed to standing water or water immersion.

We recommend you contact the aluminum building product manufacturer for their recommendations regarding their aluminum products in contact with MicroPro treated wood used in ground contact applications or when MicroPro treated wood is exposed to salt water, brackish water, or chlorinated water, such as swimming pools or hot tubs. Also check with the aluminum product manufacturers regarding compatibility with other chemicals and cleaning agents. Contact Osmose for further information on aluminum contact use in commercial, industrial, and specialty applications such as boat construction.

MicroPro/Smart Sense products are not currently approved for saltwater immersion applications.

## **PART 2 GENERAL**



### **Product Highlights and EPP (Environmentally Preferable Product) Benefits**

**First Wood Treatment Process to Receive EPP Status** – The Osmose MicroPro technology is the first treated wood process to be certified under Scientific Certification Systems’ Environmentally Preferable Product (EPP) program based on Life-Cycle Assessment.

**First Wood Treatment Process to Complete Life-Cycle Assessment Studies** – The Osmose MicroPro wood treatment process systems were analyzed by Scientific Certification Systems under an exhaustive environmental review process called Life-Cycle Assessment (LCA), in accordance with rigorous international standards set by ISO, the leading international standards setting organization. The MicroPro LCA studies are in compliance with ISO standards 14044 and 14025.

**Reduced Energy Use** – The Osmose MicroPro treated wood process reduces total energy use by approximately 80% and greatly reduces greenhouse gas emissions.

**Largely Eliminates Copper Releases** – Wood products treated with the Osmose MicroPro process result in the release of 90% to 99% less copper into aquatic and terrestrial environments when compared to standard treated wood products. The very small amount released bonds readily to organic matter in the soil and becomes biologically inactive, thus effectively eliminating eco-toxic impacts.

**Reduced Air Emissions** – The solution containing the MicroPro copper preservative formula is four times more concentrated than the industry standard. As a result, fewer trucks are required for transport. Fewer trucks, combined with the absence of monoethanolamine (MEA) in the production process, result in a reduction of air pollutants from tailpipe emissions and associated impacts, including: soot, nitrous oxide, volatile organic compounds (VOC’s), particulate matter, and reduced impacts of acid rain, smog, and oceanic acidification.

**Reduced Greenhouse Gas Emissions** – The absence of MEA in the production process, combined with the reduced use of fuel and fewer trucks, means that using MicroPro technology in lieu of

standard wood treatment formulations reduces an estimated 20,000 tons or more of greenhouse gas emissions each year. (This is the equivalent to the annual emissions of approximately 2,200 SUV's.)

For more information, visit [www.scscertified.com](http://www.scscertified.com).

## **SUMMARY**

Section Includes: termite and fungal decay protection treatment for wood products specified in other sections, including:

Specifier Note: Edit subparagraphs below to suit project requirements and specifier practice.

1. Above ground: Decking, rails, spindles, trim and fascia, framing, flooring, sill plates, trellises, gazebos, fencing.
2. Ground Contact and Fresh Water Immersion: Deck support posts, fence posts and fresh water boat docks.
3. Critical Structural: Permanent wood foundations, building poles.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles.

B. Related Sections: Section(s) related to this section include:

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

## **REFERENCES**

A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

B. American Wood-Preservers' Association (AWPA) Standards used for quality control of MicroPro/Smart Sense: 1. AWPA Analytical Standards A2-06, A3-05, A9-01, A-11-93, A17-03, A18-05, A21-00, A36-04, A37-05.

C. ICC Evaluation Service Inc.

1. ICC-ES Report No. ESR-1980.

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional, not dimensional, tolerances of a complete system. Limit descriptions to composite and operational properties to extent necessary to link multiple components of a system together and to interface with other systems.

## **SYSTEM DESCRIPTION**

- A. Performance Requirements: Provide micronized copper quaternary wood preservative treatment that will [Perform in accordance with manufacturer's stated performance criteria without defects, damage or failure.].

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Submittal Procedures Section.

## **SUBMITTALS**

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Submittal Procedures Section.
- B. Product Data: Submit product data, including manufacturer's product sheet, for specified products.
- C. Quality Assurance Submittals: Submit the following:
  - 1. Evaluation Report:
    - a. ICC Evaluation Services, Inc. ESR - 1980.
    - b. [Specify model code evaluation report submittal to suit project requirements.]
    - c. Environmentally Preferable Product certified SCS-EPP-01514 ([www.scs-certified.com](http://www.scs-certified.com)).
  - 2. Certificates: Certification from treating plant certifying wood treatment applied complies with the criteria and physical requirements for micronized copper quaternary preservative-treated wood products as specified herein.
  - 3. Closeout Submittals: Submit the following: [Insert requirements.].
  - 4. Warranty: Warranty documents specified herein.

Specifier Note: Article below should include prerequisites, standards, limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate below article with Quality Assurance Section.

## **QUALITY ASSURANCE**

- A. Source Quality: Obtain micronized copper quaternary preservative-treated wood products from a single approved source.
- B. Wood Treatment Plant Qualifications: Wood treatment plant experienced in performing work of this section which has specialized in the treatment of wood similar to that required for this project, licensed by the manufacturer and listed on ICC Evaluation Services, Inc. ESR – 1980.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Regulatory Requirements Section. Repetitive statements should be avoided. Edit paragraph below to suit project requirements.

- C. Regulatory Requirements: Provide preservative treatment that complies with the following regulatory requirements:

- 1. [Insert name of applicable code.], requirements for termite- and fungal decay-preservative-treated wood.

Specifier Note: Retain quality mark requirement below for all micronized copper quaternary preservative-treated wood product applications.

- D. Quality Mark: All micronized copper quaternary preservative-treated wood members shall bear an end tag or permanent ink stamp indicating the following:

- 1. Name of wood treating company.
- 2. Treatment plant city and state.
- 3. Symbol “Micronized Copper Quaternary Compounds.”
- 4. Preservative retention level.
- 5. Approved use.
- 6. ESR number.
- 7. Third party inspection agency.

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Product Requirements Section.

## **DELIVERY, STORAGE & HANDLING**

- A. General: Comply with Product Requirements Sections.
- B. Exposure: Allow materials exposed to incidental moisture to dry thoroughly prior to covering with vapor or moisture-retarding finish materials.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section.

### **1.07 WARRANTY**

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements. Osmose, Inc., offers a limited lifetime warranty against structural failure caused by fungal decay or termites under "The MicroPro/Smart Sense Residential & Agricultural Limited Warranty." Consult manufacturer for complete details.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements.

1. Warranty Period: MicroPro/Smart Sense Residential & Agricultural Limited Warranty.

## **PART 2 PRODUCTS**

Specifier Note: MicroPro/Smart Sense Preservative is used to treat sapwood species and Incised Hem-Fir. Specify appropriate product(s) below.

**MICRONIZED COPPER QUATERNARY PRESERVATIVE-TREATED WOOD PRODUCTS,**  
[MicroPro 200C]

Specifier Note: Retain first 3 paragraphs below for specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

A. Manufacturer: Osmose, Inc.

1. Contact: PO Drawer O, 1016 Everee Inn Road, Griffin, GA 30224-0249; Telephone: (800) 241-0240, (770) 233-4200; Fax: (770) 229-5225; E-mail: [treatedwood@osmose.com](mailto:treatedwood@osmose.com); Web site: [www.osmosewood.com](http://www.osmosewood.com).

B. Proprietary Product(s)/System(s):

1. MicroPro/Smart Sense Preservative-Treated Wood Products:

a. Preservative Treatment: Waterborne, micronized copper quaternary preservative system meeting the following standards:

- 1) AWWPA Analytical Standards used in the quality control of MicroPro/Smart Sense treated wood: A2-06, A3-05, A9-01, A-11-93, A16-93, A17-03, A18-05, A21-00, A36-04, A37-05.

## **PRODUCT SUBSTITUTIONS**

A. Substitutions: No substitutions permitted.

## **RELATED MATERIALS**

A. Provide the following related materials:

1. End Cut Preservative:

- a. Material Type and Name: [Acceptable to manufacturer of micronized copper quaternary preservative].
- b. Manufacturer: [Acceptable to manufacturer of micronized copper quaternary preservative].

2. Adhesive:

- a. Material Type and Name: [Acceptable to manufacturer of micronized copper quaternary preservative].
- b. Manufacturer: [Acceptable to manufacturer of micronized copper quaternary preservative].

## **SOURCE QUALITY**

Specifier Note: Coordinate paragraph below with Quality Control Section.

A. Tests, Inspections: [Specify tests, inspections and other source quality requirements.]

## **PART 3 EXECUTION**

Specifier Note: Revise article below to suit project requirements and Specifier's practice.

## **MANUFACTURER'S INSTRUCTIONS**

A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

## **INSTALLATION**

A. General:

1. Select micronized copper quaternary preservative-treated wood members in accordance with appropriate untreated lumber and plywood span tables.
2. Provide ventilation of building cavities as required by code.

Specifier Note: Retain, edit or delete paragraph below to suit project requirements and specifier practice.

B. Aluminum building products may be placed in direct contact with MicroPro treated wood products used for interior uses and above ground exterior applications such as decks, fencing, and landscaping projects. Examples of aluminum products include siding, roofing, gutters, door and window trim, flashing, nails, fasteners and other hardware

connectors. However, MicroPro treated wood in direct contact with aluminum products should only be used in code compliant construction applications that provide proper water drainage and do not allow the wood to be exposed to standing water or water immersion. We recommend you contact the aluminum building product manufacturer for their recommendations regarding their aluminum products in contact with MicroPro treated wood used in ground contact applications or when MicroPro treated wood is exposed to salt water, brackish water, or chlorinated water, such as swimming pools or hot tubs. Also check with the aluminum product manufacturers regarding compatibility with other chemicals and cleaning agents. Contact Osmose for further information on aluminum contact use in commercial, industrial, and specialty applications such as boat construction.

C. Install micronized copper quaternary preservative-treated wood in accordance with requirements of applicable codes. Avoid milling operations that could adversely affect preservative characteristics of micronized copper quaternary preservative-treated wood.

C. End Cut Treatment: Brush-on endcoat wood preservative is recommended on all saw cuts and drill holes during construction of wood projects. Also apply on areas where moisture can collect. Always follow manufacturer's recommendations.

Specifier Note: Verify requirements of building code authority having jurisdiction and edit paragraph below as required.

D. Sill Plate: Where applicable, provide sill plate of [micronized copper quaternary preservative-treated wood] [Specify sill plate material.].

Specifier Note: Verify fastener requirements of building code authority having jurisdiction and edit paragraph below as required.

F. Install treated wood using hot dipped galvanized steel, stainless steel, or other fasteners and hardware as recommended by the hardware manufacturer and in compliance with code authority having jurisdiction.

## **FINISHING**

Specifier Note: Complete application recommendations are available from the manufacturer. Avoid frequent or prolonged inhalation of sawdust from treated wood. When sawing and machining treated wood, wear a dust mask. When power sawing or machining, wear goggles to protect eyes from flying particles. Surfaces must be clean and dry before application.

A. Prepare micronized copper quaternary preservative-treated wood for application of finishes in accordance with manufacturer's recommendations. Sand surfaces lightly, clean and verify proper moisture content prior to finishing.

B. Apply paint or stain in accordance with Division 9 Section "Painting."  
If you desire to apply a paint, stain, clear water repellent or other finish to our preservative treated wood, we recommend following the manufacturer's instructions and label of the finishing product. Before you start, we recommend you apply the finishing product to a small exposed test area before finishing the entire project to insure it provides the intended result before proceeding.



C. Refer to [www.osmosewood.com](http://www.osmosewood.com) for additional information or contact Osmose, Inc., PO Drawer O, Griffin, GA 30224-0249; Telephone: 800-241-0240; Fax: 770-229-5225; Email: [treatedwood@osmose.com](mailto:treatedwood@osmose.com)

### 3.04 PROTECTION

#### A. Protection:

1. Protect micronized copper quaternary preservative-treated wood from damage due to subsequent construction activity.
2. Protect from moisture prior to installation of finishes.

**END OF SECTION**



**MicroPro® is a registered trademark of Osmose, Inc. Smart Sense® is a registered trademark of Osmose, Inc.**